

REMARKS

The Office Action mailed September 8, 2008 has been received and its contents carefully noted. From the Summary page, claims 1-37 were pending and indicated as rejected. An objection was made to the Specification. Also, acknowledgment was made of Applicants' Claim for Foreign Priority. Further, the Information Disclosure Statement filed February 10, 2006 has been considered.

By this response, clarifying amendments have been made to independent claim 1 pursuant to the antecedent basis rejection as to claims 11-31. Specifically, the phrase "*the surface thereof*" in claims 11-31 is now supported by claim 1, as amended. Also, an amendment has been made to claim 22 by deleting an inadvertent typographical error carried over from the preliminary amendment submitted March 19, 2008. Further, the Abstract of the Disclosure has been amended to overcome the objection to the Specification. No statutory new matter has been added. All amendments are supported by the disclosure as originally filed.

In addition, a Petition for a one-month Extension of Time with the requisite fee accompany the response.

In view of the claim amendments and remarks provided herein, Applicants respectfully request withdrawal and reconsideration of the objection and rejections.

Objection to the Specification

Specifically, an objection was made to the Abstract of the Disclosure. By this response, Applicants have amended the Abstract of the Disclosure, *supra*, to overcome the objection. Thus, Applicants courteously solicit withdrawal and reconsideration of the objection.

35 U.S.C. § 112, second paragraph

Claims 11-31 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as their invention. Specifically, the phrase "*the surface thereof*" purportedly lacks

antecedent basis. By this response, Applicants have amended claim 1, *supra*, to provide antecedent basis for claims 11-31. Accordingly, Applicants earnestly solicit withdrawal and reconsideration of the rejection as to claims 11-31.

35 U.S.C. § 103(a)

I. Claims 1-2, 4-14, 20, 26-27 and 32-37 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Roman (US 6,171,602) in view of Deller et al. (US 5,776,240). The rejection as to claims 1-2, 4-14, 20, 26-27 and 32-37 is respectfully traversed.

A. The present invention of claim 1, as amended, describes a carrier made from pyrogenically prepared silicon dioxide granules having low water content, high purity and good flow properties. See paras. 3-7 of Applicants' Publication 2006/0229210. The carrier has at least one substance such as a foodstuff additive, a chemical intermediate and a plant protection agent adsorbed onto a surface of the carrier. See para. 1108. The method of adsorption is performed by melting the substance(s) with a solvent, if necessary, and then mixing the liquid substance with the pyrogenically prepared silicon dioxide granules. *Id.* Thereafter, any excess solvent is removed by elevated temperature and/or pressure. *Id.*

Applicants assert that the present invention achieves unexpected results. Specifically, the table provided on para. 1126 labeled "Results" illustrates examples 1-4, as indicative of the claimed invention, in contrast with comparison examples 1-2, as indicative of precipitated silicas, and comparison example 3, as indicative of silica gel. Collectively, the results for examples 1-4 provide a flow rating of 2, a slope angle < 40 °C and a bulk density > 475 g/l. In contrast, comparison example 1 describes a flow rating of 3, a slope angle of 46 °C and a bulk density of 450 g/l. Comparison example 2 exhibits a flow rating of 4, a slope angle of 63.9 °C and a bulk density of 353 g/l. Therefore, the claimed invention describes unexpected results of a liquid silica adsorbate having good flowability (i.e., low flow rating and slope angle) and high bulk volume advantageous for carrier use. See para. 1128. As such, the present invention would not have been obvious to one of ordinary skill in the art in view of the five (5) prior art rejections presented in the Office Action. Thus, claim 1, and claims 2-37, dependent thereon, patentably

distinguish thereover. Accordingly, Applicants earnestly solicit withdrawal and reconsideration of the rejection in view of the results provided above.

B. Claim 1, as amended, recites, “*A granule comprising pyrogenically prepared silicon dioxide as a carrier, said carrier having a surface, and at least one substance adsorbed on said surface selected from the group consisting of a foodstuff additive, a chemical intermediate and a plant protection agent.*” Applicants respectfully submit that the combination of Roman and Deller would not have rendered claim 1 prima facie obvious to one of ordinary skill in the art, and thus, amended claim 1 patentably distinguishes thereover.

As indicated in the Office Action on pg. 3, Roman does not teach the use of pyrogenically prepared silica. Deller was purportedly introduced for teaching pyrogenically prepared silica granules which can be used as an adsorption media. See col. 1, ll. 28-29.

A fair reading of Deller suggests that Deller’s pyrogenically prepared silicon dioxide granules are used as supports for polymerization catalysts, and in particular, as supports for catalysts for the production of polyethylene. See col. 1, ll. 48-50; See also clm. 14; See also col. 6, ll. 20-22. Applicants also submit that Deller, which shares a common assignee with the present invention, is disclosed in para. 8 of Applicants’ publication as being the equivalent of the corresponding EP document (please note the same EP document is mentioned in para. 10, where the number has been misspelled). In fact, Deller is totally silent as to pyrogenically prepared silica granules to be used as a carrier, and more especially as a carrier for food stuff additives, chemical intermediates and plant protection agents, and therefore, the combination of Roman and Deller invokes impermissible hindsight. In this instance, Applicants assert that the suggestion to combine Roman and Deller arrives only from the present invention. As such, amended claim 1 would not have been obvious to one of ordinary skill in the art in view of the combined references of Roman and Deller.

Second, Applicants assert that the age of the cited references should be taken into consideration in view of the present invention. In this instance, both references were invented in the mid-90s. However, in the ten years since to Applicants’ knowledge, no entity has arrived at Applicants’ present invention. This evidence, coupled with Applicants’ unexpected results

clearly suggests that the present claimed invention would not have been obvious to one of ordinary skill in the art. Accordingly, amended claim 1 further patentably distinguishes thereover. In view of the foregoing, Applicants courteously solicit withdrawal and reconsideration of the rejection as to independent claim 1, as amended, and claims 2, 4-14, 20, 26-27 and 32-37, dependent thereon.

II. Claims 1-3, 28 and 30-31 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Minemoto (JP 02049707) in view of Deller et al. (US 5,776,240). The rejection as to claims 1-3, 28 and 30-31 is respectfully traversed.

The Office Action admits that Minemoto fails to teach the use of pyrogenically prepared silica. Deller is purportedly asserted as teaching pyrogenically prepared silica granules which can be used as adsorption media.

First, Applicants refer to arguments provided in section **IA**, *supra*, with respect to the unexpected results achieved in Applicants' present invention regarding better flowability characteristics and higher bulk density. These results could not have been predicted by the combination of references.

Second, Applicants refer to arguments on the merits as provided in section **IB**, *supra*, regarding impermissible hindsight as to Deller. In view of the foregoing, Applicants' present invention patentably distinguishes thereover. Accordingly, Applicants courteously solicit withdrawal of the rejection as to amended claim 1 and claims 3, 28 and 30-31, dependent thereon.

III. Claims 1, 19, 21, 29 and 34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Park et al. (US 5,654,258) in view of Deller et al. (US 5,776,240). The rejection as to claims 1, 19, 21, 29 and 34 is traversed.

The Office Action admits that Park teaches a composition comprising trifluralin (a herbicide) in porous silica carrier particles. Park does not the use of pyrogenically prepared silica. Deller was introduced as purportedly teaching pyrogenically prepared silica granules which can be used as adsorption media.

As an initial matter, Applicants refer to arguments provided in section **IA**, *supra*, with respect to the unexpected results achieved in Applicants' present invention regarding better flowability characteristics and higher bulk density. These results could not have been predicted by the combination of references.

Second, Applicants refer to arguments on the merits as provided in section **IB**, *supra*, regarding impermissible hindsight as to Deller.

Next, Applicants assert that Park, the primary reference, fails to disclose the characteristic properties of Applicants' claimed invention in view of amended claim 1. For instance, the carrier particles in Park are preferably finely divided porous particles which consist of primary particles of amorphous silica or of silicates which have been formed by precipitation in water and agglomerated into clusters having a surface area of 100 to 300 m²/g. See col. 5, ll. 1-14. Moreover, the silicon has an adsorbed water content of 2-12 wt% and described to be Sipernat 50s. See Ex. 9 at col. 12.

In contrast, as provided in Applicants' exemplary embodiment in the Results Section of para. 1126, *supra*, the granules exhibit no water content. A second distinction is that Park's granules are made from Sipernat, which are shown in Applicants' Results Section as a comparison with Applicants' claimed invention. Thus, Park's Sipernat carrier is clearly inferior to Applicants' carrier. Because neither Park nor Deller suggest the unexpected results provided in Applicants' invention, amended claim 1 patentably distinguishes thereover. In view of the foregoing, Applicants courteously solicit withdrawal and reconsideration of the rejection as to amended claim 1 and claims 19, 21, 29 and 34, dependent thereon

IV. Claims 1, 15-18, and 22-23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Peterson et al. (US 6,004,584) in view of Deller et al. (US 5,776,240) and the Degussa press release titled "Dry Binder – A New Concept for Pressed Powders" (June 12, 2003). The rejection as to claims 1, 15-18 and 22-23 is respectfully traversed.

The Office Action admits that Peterson discloses a body powder comprising powder carriers such as soy starch, modified corn starch or microcrystalline cellulose (col. 3, ll. 45-50) and binders such as isopropyl or magnesium myristate (col. 6, ll. 55), but fails to disclose

pyrogenically prepared silica. There is indicated that the “Dry Binder” press release discloses that fumed silica is an ideal replacement for isopropyl or magnesium myristate as a dry binder because it adsorbs oily components and releases them upon compression. Deller purportedly teaches that pyrogenically prepared silica granules can be used as adsorption media (See col. 1, ll. 28-29).

Applicants refer to arguments provided in section **IA**, *supra*, with respect to the unexpected results achieved in Applicants’ present invention regarding better flowability characteristics and higher bulk density. These results could not have been predicted by the combination of references.

Second, Applicants refer to arguments on the merits as provided in section **IB**, *supra*, regarding impermissible hindsight as to Deller. As such, the combined teachings and suggestions as provided in Peterson, “Dry Binder” press release and Deller would still not have been prima facie obvious to one of ordinary skill in the art. As such, the Applicants’ claimed invention patentably distinguishes thereover. Accordingly, Applicants solicit withdrawal and reconsideration of the rejection as to amended claim 1 and claims 15-18, and 22-23, dependent thereon.

V. Claims 1 and 24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Technical Bulletin Pigments No. 31 (Degussa AG, November 1995) in view of Deller et al. (US 5,776,240). The rejection as to claims 1 and 24 is traversed.

The Office Action admits that Technical Bulletin does not teach the use of pyrogenically prepared silica granules. Deller was introduced as purportedly teaching pyrogenically prepared silica granules which can be used as adsorption media.

As an initial matter, Applicants refer to arguments provided in section **IA**, *supra*, with respect to the unexpected results achieved in Applicants’ present invention regarding better flowability characteristics and higher bulk density. These results could not have been predicted by the combination of references.

Second, Applicants refer to arguments on the merits as provided in section **IB**, *supra*, regarding impermissible hindsight as to Deller. Therefore, the claimed invention patentably distinguishes thereover. As such, Applicants courteously solicit withdrawal and reconsideration of the rejection as to claims 1 and 24.

CONCLUSION

All of the stated grounds of objection and rejections have been properly traversed, accommodated, or rendered moot. Therefore it is respectfully requested that the Examiner reconsider all presently outstanding objection and rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for all allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

It is not believed that extensions of time are required, beyond those that may otherwise be provided for in accompanying documents. However, in the event that additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. 1.136(a), and any fees required therefore are hereby authorized to be charged to Deposit Account No. 02-4300, Attorney Docket No. 032301.440.

Respectfully submitted,

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